



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,706	10/25/2000	Axel Thomsen	50246-070	1505

7590

09/08/2003

James J. Murphy Esq  
Winstead Sechrest & Minick PC  
PO BOX 50784  
1201 Elm Street  
Dallas, TX 75270

EXAMINER

TON, MY TRANG

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/695,706

Applicant(s)

THOMSEN ET AL.

Examiner

My-Trang N. Ton

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-27, 29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) 13-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 3, 11, 12, 29 and 31 is/are rejected.
- 7) ☒ Claim(s) 4-10 is/are objected to.
- 8) ☒ Claim(s) 13-27 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

Non-elected claims 13-27 were withdrawn from consideration. All non-elected claims should be canceled under the Amendment section.

***Claim Rejections - 35 USC § 102***

\*\*\* Claim 2 remains rejected under 35 U.S.C 102(b) as anticipated by Kaplit for the reasons recited in the last office action.

\*\*\* In response to Applicant's amendment filed on June 20, 2003, the rejection made in the last office action on the Salem reference is withdrawn.

\*\*\* The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-3, 11-12, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomsen (U.S Patent No. 6,002,299 cited in Ptol 1449).

Thomsen discloses in Figs. 1-27 a high-order multipath operational amplifier including:

an input (Vin),

an output (Dout),

a chopper stabilized, multistage feedforward amplifier (Fig. 5, Fig. 14 shown chopper-stabilized high-order multipath operational amplifier) connected between the input and the output, and

an analog to digital converter (ANALOG TO DIGITAL CONVERTER, see Fig. 4) connected between the amplifier and the output) as recited in claim 2.

The analog to digital converter is a delta sigma modulator (inherent seen in col. 12, lines 11-12) as recited in claim 3.

Elements 41-45 read on the plurality of integrators as recited in claim 11.

The limitation "fabricated on an integrated circuit" recited in claim 12 is seen to read on col. 18, lines. 58-64.

Claims 29 and 31 are similarly rejected as above claims 2 and 3.

### ***Claim Rejections - 35 USC § 103***

In response to Applicant's amendment filed on June 20, 2003, the rejection made in the last office action for claim 4 is withdrawn.

Claims 3, 12, 29 and 31 remain rejected under 35 U.S.C 103(a) as being unpatentable over Kaplit for the reasons recited in the last office action.

### ***Allowable Subject Matter***

Claims 4-10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments filed 6/20/03 have been fully considered but they are not persuasive.

For example, Applicant argues that Kaplit fails to disclose a chopper stabilized, multi-stage feedforward amplifier. However, the Kaplit reference clearly states in col. 3,

Art Unit: 2816

lines 54-56, and col. 4, line 46, the operational amplifiers 66 and 68 are chopper stabilized operational amplifiers. As disclosed in fig. 2, the chopper stabilized operational amplifiers 66 and 68 are series connected, thus, the limitation "chopper stabilized, multi-stage feedforward amplifier" is clearly met. Also, every element of the claimed invention recited in claim 2 can be seen in the circuit of Kaplit as stated in the last office action.

In response to Applicant's arguments regarding "the delta-signal modulator A/D", it is not well taken since it is notoriously well known and demonstrated in the art that the delta-signal modulator is of the type, which converts an analog input to a digital pulse. Thus, with the advance of today's technology, it would have been obvious at the time the invention was made for one skilled in the art to realize that the A/D 52 of Kaplit can be implemented as the delta sigma modulator for the purpose of providing high accuracy and wide dynamic range. Thus, the limitation "analog to digital converter is a delta signal modulator" recited in claim 3 remains rejected for the reasons recited in the last Office action.

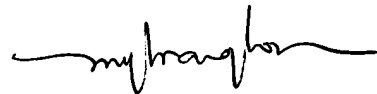
Finally, in response to Applicant's arguments regarding "fabricated on an integrated circuit", clearly if designer wish to reducing size, reducing cost of manufacture and improving circuit reliability, there is well-known way to do such as: a network 10 of Kaplit can be formed on the integrated circuit. Moreover, the integrated limitation also inherently seen in the Kaplit's reference, under Abstract section, line 4, for example: "signal integrate time". Therefore, applicant's remarks can no be found persuasive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ton whose telephone number is (703) 308-4868. The examiner can normally be reached on Monday to Thursday from 7 a.m to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

September 7, 2003



My-Trang Ton  
Primary Examiner  
Art Unit 2816